



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/450,271    11/26/99    KUISEKO

M    018656-107

021839    MMC2/0322  
BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA VA 22313-1404

EXAMINER

THOMPSON, T  
ART UNIT

PAPER NUMBER

2873  
DATE MAILED:

03/22/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No. 09/450,271	Applicant(s) KUISEKO ET AL.	
	Examiner Timothy J Thompson	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)              | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 20) <input type="checkbox"/> Other:  |

Art Unit: 2873

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 8 discloses a truncated spherical body having a base, and a plurality of surfaces tapering from the base toward an apex, wherein the tapering surfaces geometrically proportion the body with the center of gravity below the center of buoyant support and toward the apex, however, these limitations are not disclosed in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title; if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2873

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7, 9-16, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medina Puerta et al. (U.S. Patent NO. 5,638,219)

Regarding claims 1 and 15, Medina Puerta et al. discloses a first convex surface(fig 3, 6.2) to the long conjugate distance side and a second convex surface(fig 3, 3) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 3, 9). Medina Puerta et al. does not specifically disclose the light is imaged in the vicinity of the vertex of the second surface. However, since Medina Puerta et al. discloses this lens can be used as an eyepiece for a telescope (col 3, lines 6-12)and that the light is shown to be exiting near the vertex of the lens, Medina Puerta et al. obviously discloses the light is imaged in the vicinity of the vertex of the second surface.

Regarding claim 2, Medina Puerta et al. discloses the first surface and the second surface are both aspherical (col 3, line 24).

Regarding claim 3, Medina Puerta et al. discloses the first surface is aspherical(col 3, line 24).

Regarding claim 4, Medina Puerta et al. discloses the second surface is aspherical(col 3, line 24).

Regarding claim 7, Medina Puerta et al. discloses a first plano surface (fig 1, 6) to the long conjugate distance side and a second convex surface (fig 1, 3) and a luminous flux passing through a peripheral part of the first surface is reflected at a

Art Unit: 2873

peripheral part of the second surface, is again reflected at a central part of the first surface(fig 1, 9). Medina Puerta et al. does not specifically disclose the light is imaged in the vicinity of the vertex of the second surface. However, since Medina Puerta et al. discloses this lens can be used as an eyepiece for a telescope (col 3, lines 6-12)and that the light is shown to be exiting near the vertex of the lens, Medina Puerta et al. obviously discloses the light is imaged in the vicinity of the vertex of the second surface.

Regarding claim 9, Medina Puerta et al. discloses a first convex surface(fig 2, 6.1) to the long conjugate distance side and a second convex surface(fig 2, 3) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 2, 9). Medina Puerta et al. does not specifically disclose the light is imaged in the vicinity Regarding claim 13, Medina Puerta et al. discloses of the vertex of the second surface. However, since Medina Puerta et al. discloses this lens can be used as an eyepiece for a telescope (col 3, lines 6-12)and that the light is shown to be exiting near the vertex of the lens, Medina Puerta et al. obviously discloses the light is imaged in the vicinity of the vertex of the second surface.

Regarding claim 10, Medina Puerta et al. discloses the first surface and the second surface are both aspherical (col 3, line 24).

Regarding claim 11, Medina Puerta et al. discloses the first surface is aspherical(col 3, line 24).

Regarding claim 12, Medina Puerta et al. discloses the second surface is aspherical(col 3, line 24).

Regarding claim 13, Medina Puerta et al. discloses a lens element having a first surface(fig 1, 6) to the long conjugate distance side thereof with a reflectance coating on the central portion(fig 1, 4) and a light admitting area at the peripheral of the reflective coating(fig 1), and a second surface on the opposite side thereof(fig 1, 3) with a reflective coating on the peripheral portions thereof(as indicated by fig 1), wherein at least one of the first and second surfaces is convex.(fig 1, 3)

Regarding claim 14, Medina Puerta et al. discloses at least one of the lens surfaces has an aspherical shape(col 3, line 24).

Regarding claim 16, Medina Puerta et al. discloses one of the surfaces is planar(fig 1, 6).

Regarding claim 18, Medina Puerta et al. discloses the first surfaces is planar(fig 1, 6) and the second surface is convex(fig 1, 3).

Regarding claim 19, Medina Puerta et al. discloses the convex surface is aspherical(col 3, line 24).

Regarding claim 20, Medina Puerta et al. discloses a lens element having a first surface(fig 2, 4.1) to the long conjugate distance side thereof with a reflectance coating on the central portion(fig 2, 5.1) and a light admitting area at the peripheral of the reflective coating(fig 2), and a second surface on the opposite side thereof(fig 2, 3) with a reflective coating on the peripheral portions thereof(as indicated by fig 2), wherein the first surface is concave and second surfaces is convex.(fig 2, 3, 4.1)

Regarding claim 21, Medina Puerta et al. discloses at least one of the lens surfaces has an aspherical shape(col 3, line 24).

Art Unit: 2873

Regarding claim 22, Medina Puerta et al. discloses the first surfaces has an aspherical shape(col 3, line 24).

Regarding claim 23, Medina Puerta et al. discloses the second surfaces has an aspherical shape(col 3, line 24).

Regarding claim 24, Medina Puerta et al. discloses the lens is made of molded glass(col 2, lines 10-15).

Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mchenry(U.S. Patent No. 3,059,113).

Regarding claim 5, Mchenry discloses a first convex surface (fig 3) to the long conjugate distance side and a second plano surface(fig 3) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface(fig 3). McHenry does not specifically disclose the light is imaged in the vicinity of the vertex of the second surface. However, since Mchenry graphically discloses the light flux is imaged at the vertex of the lens upon the detector(fig 3, 2) and states that infrared detectors are often used at the limit of sensitivity(col 1, lines 12-15) and so the need for maximum efficiency in the gathering of the radiation, Mchenry obviously discloses the light is imaged in the vicinity of the vertex of the second surface so as to focus the rays upon the detector.

Regarding claim 17, Mchenry discloses a lens element having a first surface(fig 3,) to the long conjugate distance side thereof with a reflectance coating on the central

Art Unit: 2873

portion(fig 3, 8) and a light admitting area at the peripheral of the reflective coating(fig 3), and a second surface on the opposite side thereof with a reflective coating on the peripheral portions thereof(as indicated by fig 3), wherein the first surface is convex(fig 3) and second surfaces is planar.(fig 3)

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry(U.S. Patent No. 3,059,113) as applied to claim 5 above, and further in view of Medina Puerta et al. (U.S. Patent NO. 5,638,219).

Regarding claim 6, McHenry , as detailed in claim rejection 5 above, does not disclose the first surface is aspherical. However, Medina Puerta et al. discloses a single lens with multiple reflective surfaces which has an aspherical first surface(col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place an aspherical surface on the first surface of the lens, as shown by Medina Puerta et al., on the lens of McHenry, since aspherical surfaces as commonly used on the first surface of a lens to aid in focusing the light.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Braun (U.S. Patent No. 4,121,890) is pertinent to the application because to pertains to a single lens with multiple reflective surfaces.

Art Unit: 2873

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this office action. The early submission of formal drawings will permit the office to review the drawings therein before the application is passed to issue. This will avoid possible delays in the issue process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

T.J.T.  
03/19/01

A handwritten signature in cursive script, reading "Georgia Epps".

**Georgia Epps**  
**Supervisory Patent Examiner**  
**Technology Center 2800**